

## **APPENDIX D**

### **MONUMENTATION REQUIREMENTS**

#### **A. General Requirements**

A complete and accurate survey of the land to be divided, developed or improved, which is delineated by a parcel map, final map, improvements or other plans, shall be made by a Nevada Licensed Professional Land Surveyor in accordance with the standard practices and principals of land surveying. Where survey monuments are to be set, or are subject to disturbance and replacement, only a professional land surveyor, duly licensed by the State of Nevada shall be authorized to determine or establish the exact location for a survey monument and only such professional land surveyor shall be authorized to perpetuate and reference existing survey monuments located within the limits of public rights-of-way or private streets and easements.

#### **B. Monuments**

##### **1. General**

- a) Monuments shall be set in conformance with the standard detail drawings and the applicable parcel or final maps recorded under authority of NRS Chapter 278, or those maps and plans approved and on file with the Department of Public Works. Such monuments shall be set within or directly adjacent to the project at:
  - (1) All street centerline intersections.
  - (2) All angle points of tangency and points of curvature in street centerlines.
  - (3) All intersections of street centerlines with survey boundaries.
  - (4) All section corners, quarter corners and sixteenth section corners. All the above established points which fall within the limits of public rights-of-way or private streets and easements shall be referenced to four (4) firmly established ties within a radius of twenty (20) feet to one-hundred (100) feet. The angle from tie to tie shall be as near ninety degrees (90) as possible, radiating from the established intersection or control monument.
- b) All monuments set within the limits of public rights-of-way or private

streets and easements shall have a nonferrous metal cap securely attached to the top of the monument permanently marking the exact center. The professional land surveyor's registration or license number shall be stamped on the nonferrous metal cap, preceded by the letters: "P.L.S."

- c) Monuments may be set after approval of the map or plan, but must be set prior to the final acceptance of the improvements. If the monuments are to be set after recordation of an applicable parcel map of final map or prior to the final acceptance of the improvements or other plans, a cash deposit or approved bond in an amount set by the Department of Public Works shall be filed guaranteeing such work.
- d) All monuments shall conform to City standards. Prior approval of alternate survey monuments is recommended prior to a request for acceptance of final improvements. All alternate types of survey monuments must equal or surpass City standards regarding quality, durability and conformance with applicable laws or ordinances.
- e) Where hard rock or other physical obstructions are encountered, monument length may vary within reasonable limits as long as length is sufficient to resist removal.
- f) All monuments shall be set in such a manner that the accuracy of their relative positions is not less than the requirements of the "Standards of Practice for Professional Land Surveyors" as enumerated by Nevada Administrative Code (NAC), Sections 625.651 to 625.795, inclusive.
- g) A reproducible original of a Survey Monumentation Plan, clearly identifying all monument locations, including reference monuments, shall be prepared and certified by a Nevada Professional Land Surveyor. This plan shall be submitted to the City Surveyor prior to the release of the improvement bond or prior to release of the final map if improvements are to be installed without bond, and shall certify that the monuments are of the character and occupy the positions shown.
  - (1) The following documents may constitute a Survey Monumentation Plan providing they are in accordance with the requirements of this Chapter, and are delivered as a formal document to the City Surveyor for approval.
    - a. Record of Survey in accordance with NRS 625.340;
    - b. Corner Record in accordance with NRS Chapter 329.
  - (2) The following certificate prepared and certified by a

Professional Land Surveyor is required on all monumentation plans:

I, _____, a Licensed Professional Land Surveyor in the State of Nevada, do hereby certify that the monuments that have been set and the tie distances established as shown hereon. This survey was completed on _____.
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## **2. Types of Monuments**

- a) Type I. This monument shall be installed as a section corner or section corner surface monument in a public right-of-way or private street or easement which is paved with Portland Cement Concrete or Asphaltic Concrete. For construction, see Standard Drawing No. 239.
- b) Type II. This monument shall be installed as a surface monument at 1/16 section corners within a street or road section which is paved with Portland Cement Concrete or Asphalt Concrete. Type II monuments may also be used as subsurface section corner and 1/4 section corner monuments in an unimproved street or road section where maintenance would preclude the use of surface monuments. For construction, see Standard Drawing No. 240.
- c) Type III. This monument shall be installed at all other survey control points located in paved or unpaved streets, roads or other public or private rights-of-way shown on the parcel map or final map. Such locations may include: secondary street intersections, center of hammerhead turnarounds or circular cul-de-sac, points of curvature and/or tangency, points of intersection and points of reverse and/or compound curvature. For construction, see Standard Drawing No. 241.
- d) Type IV. This monument is a reference monument to be placed in accordance with Standard Drawing No. 243 and with a tie to tie angle as near to 90 degrees as possible. For construction see Standard Drawing No. 242. If the monuments are to be set in a concrete curb, they must be placed in a tangent section of curb, approximately two (2) feet from the end of the return.

## **3. Nevada State Plan Coordinates**

- a) Where sufficient control exists within one-half (1/2) mile of a site, Nevada State Plane Coordinates shall be established in accordance with NRS Chapter 327 for monuments located within the limits of public or private rights-of-way which are coincident with section corners, 1/4 sections corners or 1/16 section corners, as the case may be, and

shown on the Monumentation Plan. The professional land surveyor shall consult with the City Surveyor with regard to the availability of sufficient survey controls.

- b) In situations where street centerlines are obstructed by median islands, planting, streetlights or other structures, consideration should be given to placing clearly identified monuments on an offset line.
- c) Monumentation at a Point of Intersection which falls within the limits of a public or private right-of-way will be preferred over setting monuments at a Point of Curvature or Point of Tangency, unless the Point of Intersection falls outside the paved area.
- d) In places where the placement of monuments as outlined above is impossible or impractical, the City Surveyor may approve additional or alternate monument locations.

#### **4. Monument Construction**

The physical construction of monuments must be performed under the direct supervision of a Professional Land Surveyor. All requirements of City standards must be met. Poor workmanship or substandard materials will not be accepted.